



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,391	07/30/2001	Roger David Benning	Benning 16-13-10-18	9977

7590 06/06/2005
Docket Administrator
Lucent Technologies Inc.
Room 3J-219
101 Crawfords Corner Road
Holmdel, NJ 07733-3030

EXAMINER

TRAN, KHAI

ART UNIT	PAPER NUMBER
----------	--------------

2637

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/918,391

Applicant(s)

BENNING ET AL.

Examiner

KHAI TRAN

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2/02/2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed 2/2/2005 has been entered. Claims 1-36 are pending in this Office action.
2. The indicated allowability of claims 2, 4, 5, 7-9, 11, 13-14, 16-18, 20, 22-23, 25-27, 29, 31-32, 34-36 is withdrawn in view of the newly discovered reference(s) to Gutierrez et al (cited in IDS by the Applicant); Kuchi et al (U.S. Pat. 6,748,024) and Dent (U.S. Pat. 5,584,057). Rejections based on the newly cited reference(s) follow.

Terminal Disclaimer

3. The terminal disclaimer filed on 2/02/2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of the co-pending application 09/918,392 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046 29 USPQ2d 2010 (Fed. cir. 1993); *In re Longi*, 759 F.2d 887 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum* 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321 may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 10, 19, 28, are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 15 of copending Application No. 09/918,086 (amended on 5/11/2005).

Claims 1, 10, 19, 28, are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 6, 11, 16 of copending Application No. 09/918,393.

Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1, 10, 19, 28 of the instant application merely broadens the scope of the claims 1, 15 of the co-pending Application No. 09/918,086, and claims 1, 6, 11, 16 of copending Application No. 09/918,393 by eliminating the elements and their functions of claims 1, 15, 1, 6, 11, 16 of the co-pending Application No. 09/918,086 and 09/918,393. It has been held that the omission an element and its function is an obvious expedient if the remaining elements perform the same function as before. In re Kadson, 136 USPQ 184 (CCPA). Also note Ex parte Rainut 168 USPQ 375 (Bd.App.1969); omission of a reference element whose function is not needed would be obvious to one skilled in the art.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gutierrez et al (IEEE, An introduction to PSTD for IS-95 and CDMA 2000) in view of Kuchi et al (U.S. Pat. 6,748,024).

Regarding claim 1, Gutierrez et al disclose the steps of: splitting a signal $s(1)$ into signals $s(1a)$ and $s(1b)$ (Fig. 1 showing the signal is split into two paths, page 1358, col. 2, lines 10-11; and phase sweeping the signal $s(1b)$ using the phase sweep frequency signal to produce a phase swept $s(1b)$ (page 1358, col. 2, lines 12-16). Gutierrez et al fail to disclose a step of adding the phase swept signal $s(1b)$ to a signal $s(2)$ to produce a summed signal $s(3)$, wherein the signal $s2$ comprises a second STS/OTD signal belong to the STS/OTD pair.

Kuchi et al disclose a step of adding the phase swept signal s(1b) to a signal s(2) to produce a summed signal s(3) as shown in Figure 7 i.e., a phase swept signal 706a is added to IIN (10) to produce a summed signal (a summed signal IIN produced from an adder 708a). It would have been obvious to having ordinary skill in the art at the time the invention was made to add the phase swept into the phase sweep frequency signal as taught by Kuchi et al into the teachings of Gutierrez et al in order to provide high quality transmission rate data.

Regarding claim 3, Gutierrez et al disclose steps of: amplifying the signal s(1a) to produce an amplified signal s(1a); and amplifying the signal s3 to produce an amplifier signal s3 (Fig. 1, page 1358, col. 2, lines 9-28).

Regarding claims 4-5, the Examiner believes the claimed limitation are non-critical to the invention, and the may read for example on "power tempering" or the necessary to adjust transmission power based on the distance of base and mobile stations.

Regarding claim 6, Gutierrez et al also disclose additional steps for transmitting the signal s(1a) and s3 over a first and a second antennas (see Fig. 1).

Regarding claim 7, Kuchi et al disclose a signal S using space time spreading techniques to produce the signals s1 and s2 (col. 4, line 61 to col. 5, line 11).

Regarding claim 8, Gutierrez et al disclose that the signal s1 comprises a non-STS/OTD signal (page 1359, left col., lines 1-23).

Regarding claim 9, Gutierrez et al further disclose phase sweeping the signal s1(a) using a second phase sweep frequency signal to produce a phase sweep signal s(1a) with a different phase from the phase swept signal s(1b) (see Fig. 1).

Art Unit: 2637

Claims 10, 19, 28 are similar to claim 1. Therefore, claims 10, 19 and 20 are rejected under a similar rationale.

Claims 11-18, 20-27, 29-36 are similar to claims 2-9. Therefore, claims 11-18, 20-27, 29-36 are rejected under a similar rationale.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gutierrez et al in view of Kuchi et al as applied to claim 1 above, and further in view of Dent (U.S. Pat. 5,584,057).

Regarding claim 2, Gutierrez et al fail to explicitly disclose that the signal s(1a) has an associated power greater than a power level associated with the signal s(1b).

Dent teaches "Since mobile stations in CDMA systems can transmit on the same frequency at the same time signals received at the base station having relatively high signals strengths tend to interfere with those having lower signal strengths. (...) Greatest capacity in CDMA systems can be obtained when the power used to transmit to a mobile station on the downlink is tailored according to the distance from the mobile station to the center of the cell since this will reduce interference. Higher power is transmitted to mobile stations further away while lower power is transmitted to those mobile station near the cell center. The consequence of this technique, called power tapering, is that weaker signals will be more sensitive to interference from energy in the adjacent channels than will be the stronger channels." (See Col. 1, lines 46-50 and Col. 2, lines 5-13).

In regards to the teachings of Den, first, his system teaches that it is common for CDMA systems to transmit at different power levels based on the distance of the mobile station to the base station', thus it would have been obvious to one of ordinary skill

Art Unit: 2637

splitting a transmission signal at the base station in power levels necessary to comply with power tampering technique. Secondly, Dent's system identifies as a problem the interference caused by relatively high strength signals to which the lower strength signals are subjected when both signals are transmitted over the same frequency at the same time.

Based on the teachings of Dent, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to solve the problem identified by Dent by phase sweeping the split signals with different frequencies, as disclosed by Gutierrez' system and thus in this manner decrease the possibility of interference between higher and lower strength signals.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI TRAN whose telephone number is (571) 272-3019. The examiner can normally be reached on 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JAY PATEL can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2637

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



KHAI TRAN
Primary Examiner
Art Unit 2637

KT
June 02, 2005